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THOMAS G. NEWMAN, Editor.

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EDITORIAL

Mr. C. F. Muth is convalescing, we are happy to state.

We are Glad to be able to announce that Mr. James Heddon is recovering from his recent illness.

Mr. Allen Pringle is very ill, and the chances of his recovery are very slight. We shall hope, however, for a restoration to health—for as long as there is life there is hope.

Mr. Ivar S. Young, editor of the bee-paper of Norway, expected to land in New York last Friday. He expects to be at the Toronto Exhibition during the week ending Sept. 17.

We are Sorry to learn that Mr. McPherson, one of the editors of the *Canadian Bee Journal*, lost his young child on the 19th ult. We condole with our young friend in his affliction.

Laying Workers are often developed in queenless colonies, if such colonies are not supplied with eggs or brood from which to rear a queen. Look out for such a state of affairs, and see that these pests—laying workers—are not allowed to ruin queenless colonies.

Stings.—An exchange remarks that old bee-keepers rarely trouble themselves with the bee-sting remedies, but amateurs, and those in whom the flesh swells when stung near the eyes, often wish for something that will reduce the swelling and pain. The best remedy known to the writer is a tincture of plantain, made by pouring alcohol over the freshly-gathered leaves, and allowing it to remain until it turns black, when it is poured off and bottled. If this remedy is applied immediately after the wound is given, the swelling and pain will be scarcely perceptible. If the person is severely stung, a few drops of the tincture can be taken internally.

Mr. T. W. Cowan's Visit.—On Monday, Aug. 29, Mr. Cowan left Prof. Cook and made a short call upon Mr. James Heddon. They spent a few hours very pleasantly, and on Tuesday Mr. Cowan came to Chicago, without previous notice. We had agreed to notify several of the apiarists near Chicago, as soon as we knew when he was coming, but as the visit was unannounced, there was no time to get even one of them here before he was "gone" again. We spent 11 hours in pleasant social intercourse, bee-talk and in showing him around the city, taking a five-hour carriage drive on the principal thoroughfares, boulevards and parks.

To us Mr. Cowan was no stranger—though he was such to every other person in the United States of America. In July 1879, we spent an afternoon and evening at his residence at Horsham, near London, England, in company with C. J. H. Gravenhorst, editor of the *Deutsche Bienen-Zeitung*; J. Dennler, editor of the *Bienen-Zuechter*, Col. Pierson, of Strassburg, and a large company of prominent British bee-keepers. As a memento of that occasion we have one of the medals of the British Bee-Keepers' Association, which was there presented to us in honor of our visit.

Mrs. Cowan remained at Prof. Cook's residence on account of poor health, and after visiting Ch. Dadant & Son, Mr. Cowan returns to the Michigan Agricultural College, delivers an address to Prof. Cook's class, and then goes to Medina, O., thence to Niagara Falls and Toronto, as announced last week.

Mr. Cowan desired us to thank the many apiarists who had invited him to give them a call. He would be delighted to see them all, but time forbids, as he must be in London early next month.

A Reporter for the Poughkeepsie *Enterprise*, has visited the "bee-farm" of Mr. G. H. Knickerbocker at Pine Plains, N. Y., and has written up nearly a column descriptive of it for his paper. Mr. Silas M. Locke is the manager of the apiary. Speaking of these gentlemen the *Enterprise* remarks as follows:

They understand the subject in all its details, are courteous gentlemen, and certainly merit the popularity and success that are connected with "The Knickerbocker Bee-Farm."

New Invention.—The Omaha *Herald* says that its representative has visited an apiarist of Harrison county, Iowa, who has made an invention for the use of bee-keepers. He says:

It is an automatic, self-lubricating machine for fastening comb-foundation into section-boxes for surplus honey, as used by bee-keepers. The task heretofore has been a slow and tedious one, owing to the want of a machine that would do the work expeditiously. This will fully supply that want. It will do the work of any ten machines ever invented, in a given time. Though simply constructed, it is a marvel of ingenuity, and all apiarists cannot fail to appreciate it upon examination. A patent will be obtained and the manufacturing of them commenced at once.

Sweet Clover has endured the extreme heat well, and now is in full bloom. Its roots go to a great depth and get moisture when other plants, not so deep-rooted, die for want of it.

Nebraska.—The bee-keepers of Nebraska are awake, and working hard to make the pursuit a success in that State. Mr. H. N. Patterson, Secretary of the Nebraska State Bee-Keepers' Association, has issued the following "Notice to Bee-Keepers:"

The Board of Agriculture of Nebraska, have set apart ample and suitable space for the display of bees and honey at the State Fair, and now it is to the interest of Nebr. bee-keepers to improve this opportunity and show the people that this is a honey country, and that we need not admit any shipping of honey into our state.

Shall we not now awake and meet with our products—the sweetest of the sweets—the pressure of commerce and thus prove ourselves up with the day?

The Superintendent of the apiary department, Mr. E. W. Whitcomb, of Friend, Nebraska, would be glad to have you and also a sample of your produc's at the State Fair.

A meeting of the State Bee-Keepers' Association will also be held on Wednesday and Thursday evenings, Sept. 14 and 15, during the Fair, in the Botanical Lecture-Room of the State University. This room is on the first floor of the chemical building, east of the main building, south entrance. All are invited to attend these meetings. They will be free and interesting.

The action of the Nebraska Bee-Keepers' Association in endeavoring to develop the honey-flora of that State is very praiseworthy, and will bring the apiarists some speedy and lucrative returns.

Drouth in England.—The very severe drouth, which prevailed all over the Northwestern States during June and July, now appears to be prevailing in England. The *British Bee Journal* for Aug. 18, 1887, remarks as follows:

The whole country, as far as the eye can reach in every direction, has the appearance of parched stubble-fields from which the corn has been already garnered. Our meteorologists tell us that up to the present time the rainfall of the year has been twenty inches at least. Want of water is causing great distress in many districts, and the springs are so low that heavy rainfalls will be required to replenish them. Fruit, still unripe, is falling from the trees, which, on heavy soils, are themselves dying, owing to the cracked surface admitting to the roots the atmospheric air.

Queen-Bees to Canada.—A correspondent writes us a complaint, that the postmaster at Detroit has returned two packages (containing queen-bees) for insufficient postage when they were to be sent to Canada, and stamps had been placed upon them, the same as required for the U. S. postage. Our correspondent is at fault, and as others may be misinformed we make this explanation. Queen-bees nave to be sent to Canada as merchandise, and according to the law, it requires 10 cents postage on every package weighing 8 ounces or less. As the postage must be prepaid, the postmaster at Detroit was required to return them, or retain them and let them die.

The Apiculturist for September came a few days ahead of time. Under the able management of Mr. Alley it improves each month. So far as valuable matter is concerned, it is one of our best apicultural periodicals. It is well printed. On the contrary, one of the new bee-papers of the West comes to us this week with pages transposed and otherwise disfigured. So far as printing is concerned, it is away behind the age.

QUERIES

With Replies thereto.

[It is quite useless to ask for answers to Queries in this Department in less time than one month. They have to wait their turn, be put in type, and sent in about a dozen at a time to each of those who answer them; get them returned, and then find space for them in the JOURNAL. If you are in a "hurry" for replies, do not ask for them to be inserted here.—ED.]

Colonies without Eggs or Brood.

Query 465.—Should not my bees have eggs or brood at this time of the year, especially if I have fed them regularly for a week?—Missouri, Aug. 17, 1887.

Yes.—J. P. H. BROWN.

Yes.—W. Z. HUTCHINSON.

Yes; or they will have brood soon, if enough food is given.—DADANT & SON.

Yes, if you have fed them a pint of honey or syrup a day. A few spoonfuls has no effect to stimulate breeding.—G. L. TINKER.

I should prefer eggs and brood at this time; but feeding will not produce them. Hunt up the queen.—H. D. CUTTING.

My bees would be likely to, under such circumstances, but I should have no fears at all for the future welfare of the colonies, if they had not.—JAS. HEDDON.

As a general rule they should, but if the season has been like it is here, there may be some exceptions. I found one of my queens of this year's rearing which had previously laid well, without brood, at the date given in the query.—C. C. MILLER.

It will depend largely upon the weather, whether warm or cold for the season. If there is neither brood nor eggs, though, I should suspect the queen was at fault; that is, if empty cells are to be found in plenty by her.—J. E. POND.

After bees have once stopped breeding it is hard work to get them to commence again, with me. But bees ought not to stop breeding so early as Aug. 17, it seems to me, in your locality.—G. M. DOOLITTLE.

Yes; but if the drouth has been as severe with you as it has been in many places this summer, it is not surprising that the queens should cease to lay at so early a date. When the queens once cease to lay in the latter part of the season, it may require more than a week's feeding to start them to laying again.—G. W. DEMAREE.

They should. If they have not, it argues no queen. Sometimes, however, the season is so poor that bees will stop breeding, and then a week's feeding is not always enough to start them again.—A. J. COOK.

Yes; but a severe drouth would interfere with breeding. After such an interference, it often takes more than a week's feeding to induce egg-laying.—THE EDITOR.

Bees not Filling out Sections.

Query 466.—My bees are not filling the outer edges, or the top cells next to the wood in the sections. I use 10-frame 2-story Simplicity hives, and 2 cases with foundation. Why is this?—A. T. D., Me.

There is too much room.—DADANT & SON.

There is not sufficient yield of honey.—J. P. H. BROWN.

I presume the season stopped too soon.—A. J. COOK.

There is too much room and not enough honey.—H. D. CUTTING.

Perhaps you are not crowding the bees enough, and perhaps the flow of honey is light.—W. Z. HUTCHINSON.

Because the yield of honey is insufficient to crowd them to do it.—G. M. DOOLITTLE.

I do not know, because I do not know the conditions, but I presume it is because they are not storing any honey.—JAMES HEDDON.

Probably honey is not yielding enough to fill so much space. They might do better with only one case, and fewer frames in the hive.—C. C. MILLER.

Who can tell? From the reports of the season so far, you are fortunate in getting any honey stored at all. Probably you give too much storage-room for the supply furnished.—J. E. POND.

Bees never fill out sections very well except in a good honey-flow. It is not in the hive, but in the season. A section having open sides is always better filled out than closed-side sections; but in a poor season the open sides offered only a partial remedy.—G. L. TINKER.

The fault is in the honey-flow. If there was plenty of honey in the flowers, the bees would cram it in every available cell. When honey is first stored in the combs, it is thin, and is spread over a large surface to hasten evaporation, and as the nectar thickens, the bees collect it together, and while this is going on, if the flow ceases, there are likely to be empty cells, and of course these will be on the outside, and not in the center. I have often experienced this state of things.—G. W. DEMAREE.

The honey-flow is insufficient, and the bees have too much room, and hence, neglect the most undesirable cells.—THE EDITOR.

Feeding to Rear Drones.

Query 467.—How much shall I have to feed to a colony every night, in order to induce the bees to rear drones? I need them to fertilize young queens.—J. F. B.

Enough to have a little stored every day.—DADANT & SON.

I should feed half a pint of sugar syrup to a very strong colony.—J. P. H. BROWN.

I have never succeeded in getting drones in the fall by feeding, or otherwise.—G. M. DOOLITTLE.

I should guess about one-half pound; but feeding alone may not be the only thing needed. An old queen is also needed. Are you certain that there are no drones in your vicinity?—W. Z. HUTCHINSON.

From 1 to 2 ounces, depending upon the size of the colony. Constant feeding will prevent the killing of drones, in many cases.—H. D. CUTTING.

One pint a day is sufficient, if the colony has a queen past two years old. So also a young queen about two months old may often be induced to lay drone eggs.—G. L. TINKER.

I do not know from experience, but I am afraid it will be difficult to accomplish when flowers are not yielding. They will probably do as much for a half-pint nightly, as for any larger amount.—C. C. MILLER.

I should feed one or two pounds, and at the same time strengthen the colony or colonies by adding capped brood. If there is no honey coming in, it is not always easy to secure drones so late in the season.—A. J. COOK.

Give them about ½ or 1 pound of food each evening; but sometimes no amount of feeding will cause the bees to rear young. See query 465.—JAS. HEDDON.

I do not think that you can accomplish the desired end by feeding alone. Remove the worker comb, and introduce drone comb in its place, and feed two or three fluid ounces of thin sugar syrup every night. This quantity will do as well as to feed more.—J. E. POND.

There is no certainty at all that you will get drone brood by feeding at this time of the year. If you have a very old queen, and feed her colony till the hive is crowded with honey, you may get drone brood, and get the queen superseded. It would be very strange, in the light of my experience, if there are not drones in reach of your young queens at this season of the year. I often have young queens mate when I can see no drone about the hive.—G. W. DEMAREE.

If the colony has an old queen, one-half pound, fed each evening, should induce them to rear drones; if the queen is young and acceptable, it will be difficult to obtain drones thus late in the season.—THE EDITOR.

Convention Notices.

CHANGE OF TIME.—The officers of the Cedar Valley Bee-Keepers' Association have postponed the time of the next meeting, on account of its clashing with the State bee-keepers' meeting. The meeting of the Cedar Valley Bee-Keepers' Association will be held at Waterloo, Iowa, on Sept. 20 and 21, 1887.

H. E. HUBBARD, *Sec.*, Laporte City, Iowa.

☞ The St. Joseph Inter-State Bee-Keepers' Association will hold its annual meeting at Saint Joseph, Mo., on Wednesday evening of Exposition week, Sept. 14, 1887. The Editor of the AMERICAN BEE JOURNAL will be present and deliver an address. Other interesting speakers will be present. The place of holding the meeting will be announced in both of the morning papers of Saint Joseph, on Wednesday. It is to be hoped that all of the bee-keepers who can, will make it a point to be present at the meeting, as there is a rich treat in store for them. EMERSON T. ABBOTT, *Sec.*

Correspondence.

This mark ⊙ indicates that the apiarist is located near the center of the State named; ♂ north of the center; ♀ south; ○+ east; ○- west; and this ♂ northeast; ♉ northwest; ○. southeast; and ♀ southwest of the center of the State mentioned.

For the American Bee Journal.

Feeding Bees for Winter Stores.

JAMES HEDDON.

In response to numerous letters asking me to write an article on the above subject, I will here embody some thoughts regarding it, many of which I have before presented to the public. I still maintain that feeding extracted honey to convert into comb-honey, is unprofitable, and so, I may say, is feeding the same to finish nearly-completed sections, except when and where everything is most favorable, and the apiarist is thoroughly skilled at the business.

I have before stated to you, both in the AMERICAN BEE JOURNAL and in my book, that I did not find stimulative spring feeding either wise or profitable, and as the present demand from me is in the line of feeding for winter stores (a few have asked if brood-rearing was not necessary at this time of the year, to insure successful wintering), I shall confine this communication to that class of feeding, with a negative answer to the above question in parenthesis.

THE FEED FOR BEES.

In practice, I have found that syrup made from granulated sugar is superior to any honey, as a food for bees when not breeding, and when in confinement. I feel sure that I have the true theory accompanying the facts. Many prepare feed from this sugar, by adding large quantities of water, sometimes stirring the sugar and (warmed) water together; and sometimes boiling them together. When syrup is fed thus thin, little or no acid is added, for the bees hold so thin a solution in their honey-sacs so long in the process of ripening, that they often add a sufficient quantity of acid, from their glands; but when fed in this way, the bees are compelled to evaporate or ripen it, and if later in the season, or the weather is damp and cool, failure may ensue.

Several bee-keepers have written me to know why their bees will not cap over syrup that they have been feeding them. They do not tell me enough of the minor conditions, so that I can be anywise sure of the cause of failure in their special cases, but I know of no reasons why our bees here would not at once cap over syrup, thus fed and stored, except that it was fed too thin to seal, and unpropitious weather prevented ripening it in the hive.

Now my preference, when feeding for winter stores, at any time of the year, or in any atmosphere, is to make the syrup of the consistency of ripe honey at once, and add the acid to prevent crystallization, when boiling the syrup. The proportions are as follows: Ten pounds of standard grade granulated sugar, to 3 lbs. of water and a level teaspoonful of good, pure tartaric acid. I say "good, pure," only to be sure of full strength.

I use a pan on a common cook-stove, conveniently holding the syrup from ½ barrel of sugar at one time. I first put in 45 lbs. of water, and as soon as boiling, I sprinkle in (continually stirring) 150 lbs. of sugar. As soon as all is dissolved and boiling, I add 15 level teaspoonfuls of tartaric acid, previously dissolved in one pint of water; stir all together, thoroughly scraping the crystals from the side of the pan, which will not form again after adding the acid. One man will easily boil 1,000 lbs. in a day, and place it in tanks with gates in the bottom. Just at night, about the time the bees cease flying, on a pleasant day, it will be cool enough to place the feed in the feeders.

Mr. Doolittle has suggested the addition of a small proportion of honey (I think 10 to 20 per cent.) as a means of more certainly preventing crystallization, and, if I remember correctly, he would leave out the acid. I would prefer having all sugar, but there is certainly no danger in that proportion of honey, and as some brands of good granulated sugar have recently given trouble by crystallizing, even with the acid in the above proportions, I would suggest the adoption of Mr. Doolittle's honey addition; but at the same time, I would retain the tartaric acid, as stated above, for years of experience have positively demonstrated to me that it has no deleterious effects upon the bees, and just before Mr. Quinby's death, he was experimenting to demonstrate his opinion that acid was a preventive of bee-diarrhœa.

I would add the honey only where I was not sure that the syrup would not crystallize without it, and when used, it should be added the last thing, and the pan at once removed from the heat. I lift mine up, putting irons under it, and then immediately draw out the syrup by means of a large molasses gate in one of the corners of the pan.

The syrup and the hour being all ready for feeding, I use four 3-gallon tin-pails or cans with a milk-can top, bail and handle to carry by, with a lower grip-handle to tip it by, and a long curved spout coming out from near the bottom of the can and extending above the top. It is important that this spout should be large (the ones I use are 1⅛ inches in diameter), and crooked just right, and has a tight-fitting cap for the outer end.

THE BEE-FEEDER.

After my new hive and my break-joint zinc honey-board, I hold this bee-feeder as my best invention. Its working is nearly perfection. All have a right to make and use it.

The engraving represents the "Heddon Excelsior Bee-Feeder." Its capacity is 15 to 18 lbs., according to the consistency of the food, and I believe whoever once uses it will have no other. It has a large central reservoir with food-spaces and entrance-ways for the bees on each side. You will notice that the cover contains a sliding centre, through which the food is

poured without coming in contact with the bees, or cracking any of the propolis with which they have made the feeder insect-and-odor tight.

When the liquid food is poured into the reservoir, it passes to the feeding-spaces by virtue of a crack under the partition, and an oblong hole through it. This feeder cannot leak, except sometimes a trifle, resulting from imperfect workmanship, and even then it must always leak inside the hive. The advantages gained by two side-entrances are very important, but space forbids detailing the reasons.

Some of my readers may have seen feeders possessing some of the valuable features of this one, and lest they might think it was strange I should call it a "Heddon feeder," I will explain which of its functions originated with me.

I think that it was Mr. Gray who first wabbled slots in a solid block to form feed-troughs in which bees would never become daubed or drowned. This he did some 10 or 12 years ago, I believe. At the time, I was experimenting with drone-comb, with the septums removed, but found Mr. Gray's method successful and more practical, and adopted it (as he gave it to the public), but I arrived at the same result by using thin lamina of wood, tacked together with spacing-blocks between, as shown in the cut. This arrangement is not only cheaper, but better, as it allows free passage under the divisions, which being attached to the reservoir division-board, form a movable trough, which can be moved at will whenever such removal is desirable.

I will now name the functions of this feeder, or any other, which I know

were original, and I believe prior, in my own use:

1. Constructing a feeder in such manner that we may fill and refill it without coming in contact with the bees, no smoke being needed.

2. So that the feed-troughs are filled from below, by connection with a reservoir at their side.

3. Communicating the feed-troughs with each other, so that all will fill alike.

4. Communicating them with a reservoir, so that they and the reservoir must fill alike.

5. Connecting the feed-trough with the brood-chamber, by virtue of a bee-passage, which opens into the troughs at the top.

6. Constructing feed-troughs by using lamina of wood, held apart by blocks, rather than forming them by sawing slots in a solid block.

7. Constructing a feeder in such manner that it cannot leak outside the hive.

8. Constructing a cover in such a manner that the bees can glue it fast nearly all around, no odor from the feed can escape it, and refilling accomplished without removing it.

This feeder is well nigh perfection in its operation. It is eminently adapted to feeding, on a large scale. With it we have accomplished the feat of feeding 1,500 lbs. per hour, by the labor of three men; and without the least danger from robber bees. This is not an unusual accomplishment when feeding syrup for winter stores.

About the only objection to this feeder is the same that usually attaches to the best of things—it costs considerable to make it.

It will be seen how three men can place with the bees, in 100 of these feeders, 1,500 lbs. of syrup, in so short a time as an hour, and that hour between flight and dark. One man slides and reslides the covers; another follows up and empties in the syrup, and a third is constantly filling and bringing two cans at a time, changing two full ones for two empty ones. There are many days when the bees do not fly, and feeding might go on all day, with no exposure to robber bees, if anyone had bees enough and money to buy sugar to make syrup to keep three men busy at filling feeders, for ten consecutive hours.

As will be seen, this whole arrangement and system, offers less exposure to robber bees than any other yet made public, where feeding is done with the bees in full flight.

Dowagiac, ♀ Mich.

For the American Bee Journal.

The Season in Pennsylvania.

L. W. LIGHTY.

Our honey flow was "short and sweet." Last winter two-thirds of all the bees in "gums" and old boxes were killed by the cold; the spring was late, but my bees were in fine condition for fruit-bloom, which amounts to some comb-honey with us, by proper management and good weather. Fruit-bloom was immense, every twig being loaded with blossoms and very full of nectar. Bees worked at it about two full days, and filled the brood-chamber, when it began to rain, and continued to rain until the fruit and fruit blossoms were all ruined. There will be no fruit now.

Next came the locust, and full of nectar too, but the bees hardly got started when the cold rain began again, and continued nearly two weeks; by this time the fields were covered with white clover, but it was too cold for the nectar to be secreted.

After the rain was over, and it was warmer, we had 7 days of white clover bloom, and such a white clover honey shower I never before have witnessed in this part of Pennsylvania. Since white clover ceased to yield, bees had to work hard to get enough to live on. During that short flow I doubled my colonies, and secured 25 lbs. of honey per colony.

We now look hopefully forward to a fall flow, as we often have a fine flow from the asters, boneset, etc.

Mulberry, ♀ Pa., Aug. 22, 1887.

California Apiculturist.

Bee and Bird and Butterfly.

A. E. KERCHERAL.

Bird, and butterfly and bee,
Nature's brightest darlings, three!
Where the flowery treasurers cling,
Hasting swift on fairy wing;
Ever flitting on and on,
Like a spirit, seen and gone:
Flashing like the lightning's gleam,
Fading like a tender dream,
Sailors o'er the flowery sea—
Bird, and butterfly, and bee.

Bird and butterfly and bee,
Nature's blessed trinity!
Like the brief and transient snow,
Melting in the Spring's warm breath
In oblivion's hush and death;
What though creeds may veer and change
From the old, to new and strange;
What though kingdoms rock and reel
'Neath the blows of warrior steel,
Moulder, crumble slow decay,
Passing like a dream away;
What though empires rise and fall,
Rules your spell, surviving all;
Still earth's byways, all y e throng
With your gleam, and flash, and song,
Care and sorrow, all forgot,
Of to-morrow heeding not;
Bird, and butterfly, and bee,
Nature's fairy trinity!

Los Angeles, Calif.

For the American Bee Journal.

Free Honey vs. Extracted Honey.

J. F. LATHAM.

When used in connection with the word honey, or any other word representing a substance that is drawn, forced, or ejected from any source, the term "extracted" designates the manner by which the object was removed, only.

Honey, after it has been removed from the comb, whether by the centrifugal force generated by the motion of the reel in the extractor, or by pressing, is simply forced from the original receptacle as prepared for storage by the bees.

Extracted, as now used in connection with honey, savors more of an adjective of qualification than a verb, descriptive of the mechanical process by which the article is removed from the comb, and declares an action past "imperfect" without a shadow of sense relative to the *present* condition. After honey has been "forcibly removed" from the comb it *is* free (Saxon, "freoh"), liberated, and is so represented in commercial transactions, whether in barrels, kegs, or glass jars; but there appears to be no custom or rule, etymological, by which the phrase "free honey" can be made to perform the duty of honey *gratis* as hinted by Mr. Foster in the leading paragraph on page 503. Honey gratis would be as applicable to honey in the comb as out.

The word "free" can be used by the producer, or dealer when alluding to honey as simply describing its condition, *present;* it neither adds to nor detracts its quality. In many instances, the real difficulty in regard to the use of the word extracted as now applied in illustrating the condition of honey, seems to exist in the first lesson, by leaving a blank to be filled by the novice, with erroneous impressions, unless special pains is adopted by the teacher in explaining the subject.

Some will comprehend the process of extracting at once, while to others it is difficult to make "centrifugal force" fill the place of "sling." As I comprehend the subject, the single word "honey" is unsusceptible of modification. If a farmer "pulls beans" or "digs potatoes," he extracts them from the ground; but the act does not make them "extracted beans" or "extracted potatoes."

If a radical change is needed, by which to represent the sweet production of the bee-hive—were it not for the prompting and illusions in regard to there being more than one kind of honey—the word "floramel" seems to be well adapted to represent that which is now comprehended in the simple word *honey*. In the "roots" of the word "floramel," we have a compound declarative of the substance, and the source from which it is obtained by the nectar-loving insects, and the *nature* of the substance would "bar" a qualification of the word; "floral honey" would mean "honey from the flowers." But, withal, it seems that the word honey, in its honest simplicity, and "antiquity," occupies a position in the English language that would be difficult to supersede. To say a "gold dollar," or a "silver dollar" is an exaggeration; but to say gold or silver, when referring to those metals, whether reposing in the mountain-mines or the vaults of the United States treasury, is a fact. Leaving the "explanations" to those momentarily interested, and qualified to impart them, it appears that the terms "honey" and "honey in the comb" (the leading commercial conditions of the product), are all that is needed in trade.

Cumberland, ♀ Me.

Official Report to U. S. Entomologist.

Controlling Fecundation of Queens, etc.

N. W. M'LAIN.

The improvement which has been made in mechanical devices and methods of management by the scientific and practical apiarists of the United States during the past twenty-five years, has resulted in establishing the claims of the industry of bee-keeping to a place among the various branches of rural husbandry which are the acknowledged sources of a nation's wealth. Improvements in the art of bee-keeping and in the devices by which the art is practiced, are continually being made, and the degree of advancement made in the past is an earnest of the progress awaiting development in the future.

Improvements in the devices and methods of management and importing races of bees reported to possess desirable qualities and characteristics, have chiefly absorbed the attention of American bee-keepers. It is not strange that reliance has been placed upon these resorces as the means by which the best results were to be realized, rather than upon a persistent and skillful application of the laws of heredity and descent, and dependence upon the influence of intelligent selection and skillful crossing as a means for developing the highest attainable standard of excellence in *the bee*, the chief factor of permanent advancement.

The difficulties attending the control of the process of reproduction, of applying the laws of heredity and descent, and securing the influence of persistent, intelligent selection in breeding bees have appeared to be almost insurmountable. The very persistent efforts which have been made to improve the bees of the United States by yearly importations of the best races in their purity has also been attended with serious drawbacks and hindrances. These bees, bred for countless generations in a foreign habitat and under climatic conditions widely different from ours, are here submitted to conditions of domestication for which they are ill-adapted. Any modification and adaptation of habits, instinct, and physiological structure which may have been secured by breeding a few succeeding generations under the altered conditions and requirements incident to domestication in the United States, have been lost with each fresh importation of ancestral stock, and the work of securing the variability and adaptability of instinct, habit, physiological structure, and functional capacity essential to domestication here, must be begun *ab initio*.

That some practical method might be discovered by which the process of reproduction could be controlled, has long been the hope of all progressive apiculturists. With the control of fecundation assured, progress in scientific apiculture would be rapid and permanent.

In obedience to your instructions, I have continued my experiments in striving to discover a practical method by which the fecundation of queen-bees may be controlled. This I have endeavored to accomplish by two different methods, in both of which I have been in a degree successful. During the past summer, however, a drouth set in in May, almost with the beginning of the breeding season, which was said to be the severest and most protracted known in this locality for twenty-five years. No rain fell during eleven weeks, and during the four weeks next succeeding the eleven weeks without rain we had but three light showers, scarcely sufficient to lay the dust, practically resulting in an unbroken, all-consuming drouth fifteen weeks in duration. Under such conditions I found it impossible to bring many of my experimental tests to a successful issue.

Having discovered last year that it was possible to introduce the drone sperm into the spermatheca of the queen-bee during the term of orgasm, by artificial means, and that fecundation was practicable by such means, I attempted to perfect a method by which this could be done with ease and certainty. For the purpose of holding the queen-bee in position for introducing the drone sperm, I made what I call a "queen-clamp," which consists of a block of wood 2 inches square and 4 inches long, in one end of which is an opening in size and shape like the upper two-thirds of a queen-cell, with the small end up. This block is sawed in two in the middle, leaving half the cell-shaped opening on either half. Grasping the queen by the wings or thorax I place her in one half of the cell-shaped openings and carefully close the other half over her. I then place a rubber band around the block and stand it on end. This leaves the queen in position, head downward, the lower half of her abdomen protruding, and confined in such a manner that she cannot receive any injury.

For the purpose of appropriating and depositing the male sperm I used a hypodermic syringe. I removed the sharp injecting needle, and in its place substituted a nozzle having an opening of sufficient size to admit a knitting-needle of medium size. Over this nozzle I slipped a small, smooth tube, drawn to a point so small that the opening in the small end is not more than half as large as that in the nozzle. After selecting the drone I wish to use, I grasp the head and thorax between the thumb and finger, and by continued pressure cause him to perform the expulsion act. I then remove the bean in which the spermatozoa are massed, and squeeze the contents into a very small glass receiver, an eighth of an inch in depth and diameter. I then add a drop of glycerine diluted with warm rain water, and take up the spermatozoa with the syringe, using the wide nozzle. I then slip the cap having a fine, smooth point over the nozzle and inject the spermatozoa into the vulva of the queen. The queen, which has been held in position by the clamp while the preparations were being made, naturally bends the abdomen downward whenever so confined. The vulva is easily opened to admit the point of the fine nozzle-cap when the abdomen is lifted up straight. Of twenty-seven queens treated by this method the last week in May and the first week in June, six proved to be successfully fertilized. After that time, although I was persistent in my efforts to succeed, and made many and repeated trials, I met with success only occasionally.

Another method in which I succeeded in fertilizing a few queens in May, before the bees began killing the drones, was in the manner described in my report last year. I took a number of young queens from nursery cages, clipped their wings, and introduced them to queenless nuclei. When they were seven days old, orgasm being well progressed, I placed them each in turn in a queen-clamp, and, holding them back downwards, I picked drones from a comb taken from a populous hive, and caused them to expel the generative organs, and selecting those in which the contents appeared of the color and consistency of albumen, I placed drops of the seminal fluid upon and in the vulva of the queen, which were eagerly received. After the introduction of the drone sperm these queens were treated by the bees as fertile queens, and in one or two days assumed the appearance of fertile laying queens, and in from three to six days began to lay fecundated eggs.

The fact that I did occasionally succeed in fecundating queen-bees by these methods, which proved upon trial as prolific as any queens I had which had been naturally fertilized, queens which I had hatched in an incubator and in nursery cages, whose wings I had mercilessly clipped as soon as they had crawled from the cell, and which I knew had never been upon the wing, seemed to furnish reason to hope that I would be able to discover a method that would be uniformly successful. The hope of reaching this much-desired result made me persist in the face of discouragements incident to experimental work in breeding bees during the prevalence of a protracted drought. I am by no means discouraged by the partial success now realized. On the contrary, I am hopeful that under more favorable conditions better results may be obtained, and until other and untried resources fail I shall not feel warranted in abandoning effort.

Observation and experiment lead me to believe that drone-bees differ in degrees of procreativeness, and that the development and exercise of the procreative faculty are under the control of the worker bees.

First, there appeared to be drones of the impotent sort. If such be taken between the thumb and finger, no pressure short of crushing is sufficient to expel the sex organ. When forced to position external to the body, or if removed by a dissection, the organs are found to be nearly or quite empty, the few spermatozoa being massed in a hard lump, and but little mucus

being present, and that little watery and clear and having no consistency.

Another sort of drones are those in which the mucus surrounding the spermatozoa is thick and curdy. With this sort I have not been able to fertilize a queen. The procreative principle is present in quantity, but the element in which it may be liberated and floated into the organs of the queen appears to be wanting.

A third sort of drones are those in which the sex organs are completely filled with spermatozoa and an abundant supply of albuminous fluid. It is only with this latter sort that I have been able to succeed in fecundating queens.

The facts observed seem to warrant the belief that it is the prerogative of the worker bees to determine the degree of development and dominate the function of the drones as they do the succeeding generations of workers and queens, the superior intelligence of the workers ordering the entire economy of the hive. During the first half of the severe and protracted drought of the past season I was able to rear a few drones by resorting to the usual methods employed for stimulating drone-rearing, but one-third of the entire number proved upon trial to be of the sort which I believe to be impotent, and nearly all of the remaining two-thirds were of the second class, not more than 5 or 10 per cent. of the entire number being furnished with the albuminous liquid necessary to enable the drone to voluntarily perform the expulsion act and complete the function of copulation, the filling of the spermatheca of the queen; for I am led to believe that the presence of this fluid, more than any odor or other influence from the presence of the queen during orgasm, excites in the naturally frigid drones the sexual desire and assists in the execution of the expulsion act, and furnishes the element in which the spermatozoa are floated into the spermatheca, and also that the workers intelligently and purposely determine the sexual development and dominate the fitness, the desire, and capacity of the drone, as they do the physical development, the fitness, the desire, and capacity of worker and queen bees for the natural performance of their individual functions; that is to say, if drones are reared during a drouth by artificially approximating the conditions under which the desire for drone rearing normally arises, only a small percentage of the number will be sufficiently furnished with the food essential to complete sexual development, the counterpart of which is seen in a less degree in the rearing of worker larvæ; and, further, if there is a failure of honey, or if for any reason the swarming impulse is absent and no emergency exists for the forming of a new colony, very few of the sexually mature drones are supplied with the food-elements essential in producing the secretion which excites sexual desire and supplies the agency by which the spermatozoa are freed and floated into the spermatheca, the counterpart of which is seen in the refusal of the worker bees to copiously supply the queen with the rich glandular secretion essential to oviproduction whenever their instinct warns them that ovipositing should cease and that further brood-rearing would only be a waste of energy, resulting in a generation of consumers and non-producers; for the queen is only a mother, and in no sense a majesty; only a machine, not a monarch. Other facts in my experience might be mentioned in support of this belief.

On October 15, Mr. Otis N. Baldwin, of Clarksville, Mo., wrote me that he had met with success in practicing the method of fertilization described in my report of last year, and that he had discovered that drones were of three kinds, namely: "Dwarfed, immature, and ripe." As directed by your letter of instructions of November 5, I went to Clarksville and interrogated Mr. Baldwin concerning his experience and observations, and I herewith give the substance of his statement made in reply to my questions. He said:

"I first go to my nursery and take the queens and cage them; I then go to the hive of drones and pick out as many as I think I may need, and then proceed in the manner you describe in your report of 1885. I believe the whole secret of success lies in the drones, and I am not able to tell how old the drone must be, or how the right condition is brought about, or whether it was originally intended that only a very small percentage of drones should be capable of fertilizing a queen. I have, however, discovered that there are three kinds of drones. First, the drone which, when squeezed, bursts with apparently dry organs of generation. Second, drones which burst with an abundance of seminal fluid resembling a mixture made by adding bromides to a silver solution. Third, drones which bursting show a fluid resembling albumen. With the two former kinds I have not succeeded in fertilizing a single queen. With the latter I have fertilized over two hundred queens the past season with but few failures after I found out the difference in drones. I carefully grasp the thorax of the queen between the thumb and finger of the left hand and with the right I pick up the drone which I have selected, and press the thorax and abdomen of the drone until the generative organs are expelled, using as many as I need until I find one in which the color and consistency of the fluid suits me. Sometimes only a few of the right kind can be found in as many as one hundred. I place a few drops of the male fluid upon the vulva of the queen, which is eagerly received, using one, and only one, drone for each queen. I have fertilized queens by this method that were not a day old, and others more than fifteen days old, and after clipping their wings, introduced them to their colonies, and they began laying in from six to eight days, and were satisfactorily prolific.

"As nearly as I could tell, those fertilized early were more prolific than those treated after they were ten days old, but the right condition of the drone is very essential. It is very difficult to get drones ripe enough before the first half of May and after the first half of August, but during June and July this method may be operated with gratifying results. Queens fertilized by this method and directly introduced into a queenless colony are rarely ever molested by the bees. I clipped the wings of the first twenty or twenty-five queens that I succeeded in fertilizing by this method, and finding the method worked to my satisfaction and with but few failures, I clipped no more wings."

The experience here detailed, as far as it relates to the procreativeness of drones, is in agreement with the facts within my own observation already set forth. The claim that a very large number of queens were successfully fertilized as set forth, and that, too, with but few failures in the whole number attempted, is lacking in the element of absolute certainty and completeness of detail which would entitle it to acceptance as of any scientific value. Mr. Baldwin assured me that "there could have been no mistake about it;" but in order to effectually guard against all possibility of the test being abortive, all the queens claimed to have been artificially fecundated should have had their wings thoroughly clipped before they were liberated. But the fact that the repeated successes were realized when the young queens were clipped upon being taken from the nursery-cage, never having had opportunity to bear their weight upon their wings, is an encouraging step in advance towards the solution of the most difficult problem in practical bee-keeping. Another season, with the presence of favorable conditions, will determine the practicability and value of this method.

FERTILIZATION IN CONFINEMENT.

Realizing that natural methods nearly always possess advantages over artificial methods, I determined if possible to gain control of reproduction by the fertilization of queens in confinement. That some inexpensive and practicable method might be devised by which the natural mating of queens in confinement could be secured, has very long been hoped for by all progressive apiarists. Very many attempts, in a variety of ways, some of which involved the outlay of considerable sums of money, have been made, but difficulties apparently insurmountable were encountered.

I removed the queens from 6 colonies which I had had confined in the house for experimenting with bees and fruit—a house 10 feet by 16 feet, 8 feet high, partly covered on the sides with wire-cloth, a wire-covered sash in the gable, and large screen wire-covered doors in each end. These were strong colonies, which had been confined in this house for thirty days and had learned the location of their hives, and from these the bees flew daily in great numbers, returning frequently to their hives. Into these 6 colonies I introduced virgin queens hatched from cells which I had placed

in wire cages. Into each colony the virgin queen was placed without being removed from the cage in which she was hatched. In due time they were accepted and liberated. The day these queens were five days old I liberated about ten drones near to the entrance of each of these hives. These drones were brought from hives in the apiary, and upon being liberated most of them persisted in flying against the wire-covered sides and windows in the gable, and few ever entered the hives. Here again there was frigidity or disability apparent among the drones. When the young queens flew from the hives seeking a mate they mingled among the drones, crawling over them and caressing them with their antennæ, meeting with no response. These queens, with one exception, seemed to have no difficulty in getting the location of their respective hives.

The result of this trial was, one queen of the six was fertilized, and after she had laid eggs with regularity in two-thirds of the cells on both sides of one frame, after clipping the queen's wings, I removed this frame, with the queen and adhering bees, to a nucleus in the yard, and from the eggs laid in confinement worker bees hatched in due time, and the queen continued to lay as long as the nucleus was fed, there being nothing in the fields for the bees to gather. All the eggs laid by this queen were fecundated eggs. Being convinced that as far as the queens were concerned the difficulties in the way of success were not insurmountable, and that the main trouble was that the drones had not been furnished by the workers with the grandular secretion or the food suitable for producing the albumenlike secretion which I had been lead to believe essential to produce sexual desire and to assist in the performance of the copulative act, from these same colonies I removed the remaining unmated queens, and to each I introduced another virgin queen as before.

I then went to a distant apiary, and secured an unusually strong colony which was under the swarming impulse. A few queen-cells were being built and a moderate supply of drones was present. This was late in the season. This colony had not cast a swarm during the year, and was the only one I could find, after considerable search and inquiry far and near, having any drones, and probably owing to the excessive drought only an occasional one of the number examined had been prepared by the workers for the procreative function. I took this colony home and placed it in the wire-covered house at the end opposite that in which the virgin queens were located. I clipped the wings of the old queen so that she could not leave the hive, and upon being liberated the workers and drones of this hive made less effort to escape than those brought in from the apiary near by, and soon seemed reconciled to their new surroundings. The workers soon learned ther location and drones were soon to be found in nearly every hive in the house. The result of this trial was that three of the six queens were fertilized, and as soon as they had each laid five or six hundred eggs I clipped their wings and then removed them, together with their colonies, to the yard and fed them, and all the eggs laid by these queens produced worker bees. I am much encouraged by the success so far realized under conditions so unfavorable.

With the return of spring I hope to follow out your suggestions and continue the test, using a large wire-covered inclosure for the purpose; with hives so arranged on the sides that the worker bees may have unobstructed flight, while the drones and queens, being restrained by means of queen-excluding zinc placed before the outside entrance to the hive, may fly and mate within the inclosure and readily return to the hives from whence they came. If practical control of reproduction can be secured by so simple and inexpensive a method—and the facts from my experience as given above seem to warrant the conclusion that this is true—then the Rubicon of scientific apiculture is passed.

Aurora, Ills., Dec. 31, 1886.

For the American Bee Journal.

Bare-Headed Bees and the Wax-Moth.

HANS ERSLEV,
(*Editor of the Danish Bee-Journal.*)

In the valuable AMERICAN BEE JOURNAL I have lately seen two articles referring to this subject—one on page 393, by Mr. Hoyle, and on page 470, by Mr. Hill. The first correspondent asserts that unsealed brood is connected with, and a sign of "foul brood," while the other denies this, but without giving any other explanation of the cause that will produce this strange phenomenon.

As I firmly believe, I am aware of this cause, and as the journal of my little native country very seldom reaches across the Atlantic, I take the liberty to send this little article, as I might perhaps be able to spread some light on this dark point, in return for all the valuable information which I, through several years, have drawn from the columns of the AMERICAN BEE JOURNAL.

Bare-headed bees are caused by wax-moth. I need not describe how much harm this enemy of bee-culture may do; how it destroys the combs and eats honey and wax in the hives, if the bee-keeper does not constantly pursue it and keep his colonies strong so that the bees may be able to destroy these bad visitors in their home. But besides eating wax and honey, the moth directly injures the brood, and this fact has not formerly been fully known or acknowledged; and I think the harm thus caused by the moth is far greater than most bee-keepers imagine.

The porous seals over the brood-cells consists of little particles of wax and pollen interwoven with the threads spun by the bee-larvæ. But if the nymph is attacked by the moth-worms down at the base of the cell, it grows unable to complete its cocoon, and it never becomes sealed. Often I have seen some few unsealed nymphs in a fine brood-comb, and when I have minutely examined the comb I was sure to find moth-larvæ in it. A healthy young bee will, itself, be able to gnaw off the seal over its cell, but when a bee-nymph has fully spun its cocoon and is well sealed, and then is attacked by moth-worms, the young workers that nurse the brood will gnaw off the seals. This is another case of unsealed-brood, but in both cases the "bare-headed-bees" are caused by the wax-moth.

I hope that this question will now be further investigated in America, and if my explanation will be confirmed, which I do not doubt, I hope that this fact may induce bee-keepers to pursue the wax-moth still more eagerly than formerly.

The worst cause to the developing of moth is using old comb in which the eggs and larvæ of the moth have not been previously destroyed. No care should be spared to do this, and to keep every colony strong. Then bare-headed bees would be rare, and bee-culture often more advantageous than hitherto.

Kelundberg, Denmark.

Florida Dispatch.

Increasing Colonies in Florida.

JNO. Y. DETWILER.

The management of the apiary in any locality must be governed by the sources from which the prospective honey crop is obtained. In those portions of Florida adapted to the specialist in apiculture, a routine should be followed that will admit of no mistakes or failures. By carefully noting the sources of nectar and the time of its secretion, as well as its duration, much loss of time can be saved. The usual time for increasing colonies by either natural swarming or dividing colonies, is in the early part of the season, when the nectar secreted is in a thin or watery condition, which is most conducive in brood-rearing and increase of colonies.

To successfully increase the apiary in the early part of the season, it is necessary to make the young colonies previous to the coming of the mosquito-hawks; and observe carefully that they are amply supplied with stores to build comb upon, as well as to rear brood. To accomplish this, in many instances it will require feeding, in order to secure the necessary force of field-workers in time to gather the first secretion of honey. When feeding is not desirable, either through the lack of honey or fear of robbing, a good plan is to make the increase at the close of the season, starting the cells in the season of the greatest honey-flow, allowing the colonies to fill the hives with honey sufficient for both old and new. Divide half the brood and give sufficient honey to fill the hive. Let them re-

main over night to note the loss of the queen. Insert a ripe cell the next morning, and the trouble is avoided that would be required in looking after a weak colony in the spring.

With drones flying, the fertilization of the virgin queen, in the absence of the mosquito-hawks, is as certain as in the northern States, and the colony is ready for business in the early spring. This method will be found advantageous when extracting has been practiced and the bees are in excess of what are required to winter over in one colony.

After properly arranging the colonies after the season is passed, an excellent plan is to let each colony severely alone, as the chances are more favorable for its wintering than if it is being continually "tinkered with."

Thus far the yield of honey from the mangrove and palmetto has been satisfactory. Of the former, the bees work industriously morning and evening, though many of the buds are yet unopened. The dry weather has its effect, and as a result, it is feared much that was expected to bloom will be blighted. Of the cabbage palmetto bloom, the bees are still working upon it to a certain extent. The protracted drouth has a tendency to evaporate the secretion, and the result appears to be more of a yield than has been secured heretofore.

There is not the least doubt but what the humid atmosphere of an ordinary season dilutes the secretion to a great extent in this locality. Under such conditions the value of the cabbage palmetto is of secondary consideration.

Swarming has for some reason been omitted from the programme in most apiaries this season. Of course, there have been exceptions of "starving out." Those colonies that have withstood the famine in the spring are amply supplied with stores for wintering. The extractor is in operation in a number of apiaries, but a few of our conservative apiarists think best to "tie up" the hives, supply frames, and look to next season for surplus honey. There are parties who keep the colonies destitute of honey by extracting, and the result will be full colonies of bees and starvation before the winter is over, unless feeding is resorted to.

New Smyrna, Fla., July 25, 1887.

For the American Bee Journal.

"Bulk Honey" for Extracted Honey.

J. D. MANDEVILLE, M. D.

I see that considerable is being written concerning new names for honey in its different forms; and as there is some dissatisfaction with the names now in use, I am glad that the matter is being discussed. I hope that the subject will be agitated until the next meeting of the North American Bee-Keepers' Society, when the apiarists of the country in joint convention will adopt names for the different forms of honey, and then let us all adhere to those names, whatever they be, and use no other. Let those names be used in the bee-papers, price-lists, and especially in market quotations. I believe it belongs to us to settle this question, and that we have the same right to name and classify our products, and the goods in which we deal, as the dealer in pork, cattle, grain, oil, iron or groceries, or any other line of goods, for that matter.

I will quote market reports on pork, viz.: Long ribs, short ribs, side meat, breakfast-bacon, pickled pork, hams, shoulders, etc., and so I might quote from the market reports of other lines of business which are lengthy, and some brief. But let us be brief, yet plain and comprehensive.

I am not bitterly opposed to the names now in use, viz.: "comb honey" and "extracted honey," and I doubt very much whether we find any better. I think the people generally understand what is meant by "extracted honey," and that it does not mean "extract of honey." Most of them know what an extractor is, and have seen it in use, or at the State or county fairs, or have had them explained to them by the honey-dealer or producer. It is but a few years since the extractor was invented, and I believe that in a short time it will be understood by all, and probably in less time than it will take to introduce and bring into general use any new names.

But if we are to have new names, I would suggest "comb honey" or "honey in the comb," for honey in sections; and "bulk honey" or "honey in bulk," for extracted honey; and in the following is where I got the idea:

If I ask my grocer for a pound or two, or five pounds, of coffee, tea, soda, starch, canned fruit, soap, lye, potash, or for an ounce of spice, pepper, indigo, etc., he hands it to me already put up in paper, can, or box. But I say to him that I do not want this; havn't you got it by the quantity? and he at once replies, "Oh yes, I have it in *bulk*," and at once shows me the barrel, box, or bag, and says: "I have it already put up, or in bulk, but the bulk generally comes the cheapest. Which will you have?" and so it is with honey that is put into nice white cells of comb, and the comb put into sections, it will always command a better price than extracted or "bulk honey," the "Wiley lie" to the contrary notwithstanding.

It may be that this is one reason why some are asking for a new name for extracted honey—because it does not command the price that comb honey does; but a new name will not improve it in quality or price, for it must always take the second place when it comes to this. It might be well to have one, two or three grades of comb honey, and the same of "bulk honey."

Philo, Ills.

["Bulk honey" as a name for honey out of the comb is both inappropriate and indefinite. Honey in the comb can be purchased "in bulk" (that is in *quantity*) just as well as that "out of the comb." Webster says that "sale by bulk" means "a sale of goods as they are, without weight or measure." It is not applicable to "honey out of the comb," for that is always sold by weight, and never by "bulk."—ED.]

Rural New Yorker.

The Honey Crop of 1887.

W. Z. HUTCHINSON.

The season opened warm and pleasant, and colonies having abundant stores boomed right along; but the dry weather, especially in the Northwest, "boomed right along" too. Here in Michigan there came a week of rain, but it was just after white clover had opened its blossoms, and no honey can be gathered from this grand honey-plant during rainy weather.

It finally cleared off, and bees began work in the sections, when there came a week of weather so cool that scarcely a bee left the hive.

The next week it warmed up and the bees again began work on white clover, but before a section of honey was sealed over and ready to come off, basswood blossomed a full week earlier than usual, and the clover was deserted for the basswood. Basswood yielded fairly for about a week, and then the white honey harvest for 1887 was past and gone. One-fourth of a crop here would be a fair average, while in the drouth-parched regions west of Lake Michigan there is almost no surplus at all. California, that often loads down our markets with car-load after car-load of honey, has none to send this year, and, even if she had, it is doubtful if it would be sent, on account of the new freight rates.

Already prices are creeping up. First-class honey has already been sold in Chicago at 17 cents, wholesale. The dealers are awaking to the situation. The leading wholesale grocery house of New York city wrote me a short time ago, making inquiries in regard to the honey crop, and asking: "What is the outlook?" Taking the whole country over, there has not been more than quarter of a crop, and there should be no haste to sell. There is but little demand for honey until cool weather sharpens the appetite for sweets, and November is amply soon enough to pnt honey on the market.

There are probably some localities where not enough honey has been gathered for winter stores; or, if there has, it has been taken away, in the hopes that more would be gathered. Some will become discouraged on account of the poor season, and neglect the bees. It is quite likely that many bees will be allowed to starve the coming winter, their owners having become too discouraged or too disgusted with the business to

prepare their bees for winter. Prices for honey will be high, and those who have bees to sell next spring may be able to sell them at good figures.

A *few* farmers sometimes make the most money in poor seasons, and the bee-keepers who will attend strictly to business, and not "lose their heads," may find the present poor season "a blessing in disguise." Bee-keepers, be sure that the bees are prepared for winter this fall in the best possible manner. If they need feeding, use a syrup of granulated sugar; it is equal to the best honey for winter stores, and is *cheaper* now.

Rogersville, ♂ Mich.

Local Convention Directory.

1887.	Time and place of Meeting.
Sept. 14.	St. Joseph Inter-State, at St. Joseph, Mo. E. T. Abbott, Sec., St. Joseph, Mo.
Sept. 15.	Hardin County, at Eldora, Iowa. J. W. Buchanan, Sec., Eldora, Iowa.
Sept. 20, 21.	Cedar Valley, at Waterloo, Iowa. H. E. Hubbard, Sec., La Porte City, Iowa.
Oct. 18.	Kentucky State, at Falmouth, Ky. J. T. Connley, Sec., Napoleon, Ky.
Nov. 16-18.	North American, at Chicago, Ills. W. Z. Hutchinson, Sec., Rogersville, Mich.
Dec. 7-9.	Michigan State, at East Saginaw, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Good Crop of Honey.—S. J. Youngman, Cato, ⊙ Mich., on Aug. 21, 1887, writes:

Although the dryest season known to the oldest inhabitant, bees have done fairly well. All colonies have cast swarms and stored from 40 to 60 lbs. of extracted honey per colony; chiefly from white and Alsike clovers, and also basswood. After six weeks of inactivity, they are now booming on buckwheat, fire-weed and a sort of bee-balm or mint, growing in wet and moist places.

Poor Honey Season.—J. F. Latham, Cumberland, ♀ Maine, an Aug. 22, 1887, writes:

The honey season in this vicinity has been a poor one. From 46 colonies I shall obtain about 1,200 pounds of honey in the comb, and an increase of 13 colonies from 18 swarms. Cold nights and extreme wet, with but few really good honey days, tell the story.

Extracted Honey—Not Discouraged.—Wm. M. Rowe, Lawrence, Kan., on Aug. 26, 1887, writes:

As it is evidently a failure to find a better word than "extracted," and for the reason that there is no word that so well describes the process of taking honey from the comb, I hope no producer will make any change. The word has come to be well understood by the public, and if there are any unenlightened individuals who do not know how honey is extracted, it will not take as much effort on the part of bee-keepers to explain and show the process, as it would to explain the new terms and reasons for changing. A change of name is cause for suspicion and doubt. The honey crop in Eastern Kansas is a failure; no honey from fruit bloom, and none from clover. I do not think I will have enough honey for winter stores for my colonies. I commenced the season with 9 colonies, secured 4 swarms, but 2 got away; yet I am *not* disgusted with the bee-business, even if the "good time coming" is yet a long way off.

Short Honey Crop, etc.—J. F. Dunn, Ridgeway, ♀ Ont., on Aug. 24, 1887, writes:

The honey crop in Ontario will be short, as compared with last season. Clover did not yield well, and while linden was in bloom the weather was exceedingly dry, with the temperature from 85° to 98° in the shade. I notice that an intelligent American public demand a new name for extracted honey, and that as yet none has been suggested that "needs no explanation," allow me to suggest one that ought to please all parties and just "fill the bill." Now suppose we call it, "centrifugally expelled, slung absolutely clear out of the comb honey."

[Yes; or any other outlandish, tongue-twisting or unpronouncable name! Why not?—ED.]

Foundation Starters, etc.—John Boerstler, Vashon, ⊶ Wash. Ter., on Aug. 20, 1887, writes:

I have tried Mr. Hutchinson's plan of putting 2 swarms together, and foundation in all the sections, except one, and that one had no starters, but was left empty, and all the 47 sections were filled with white clover honey. This shows the value of foundation used as starters. I have been transferring my bees to Langstroth hives, and Italianized 3 colonies, and I expect to Italianize more soon. I think bee-keeping will be a good thing in Washington Territory.

Solar Wax-Extractor, etc.—J. W. Tefft, Collamer, ⊙ N. Y., on Aug. 20, 1887, writes:

A good wax-extractor for melting small bits of wax can be made of a sheet of tin 14x20 inches, the edges being bent up, and placed on a board, with large kerosene-lamp chimneys on the tin. Pieces of combs can be dropped in from time. It seemed queer to see the bees work hard yesterday, and to-day too cold for a bee to venture out of the hive. A bee-keeping friend of mine, last spring purchased some cheap hives, and hived his swarms in them on 2-inch strips of foundation, with the surplus cases on. All went well till the basswood honey flow was just over. He was just ready to remove the surplus, but neglected to do so; when, to his horror, on looking at his bees he saw the honey running out of the entrances of the hives. He caught 10 milk-pans full of honey. So much for "cheap" hives.

No Swarms and no Honey.—Mrs. Lucinda Emmons, Springfield, ⊙ Ills., on Aug. 30, 1887, writes:

I have had no swarms and no honey this year; everything is dried up. We have had but two or three showers since early in June. The bees are working steadily, but what they get I cannot say, unless it is grape juice, as almost every house in the city has a grape arbor, and the English sparrows destroy the grapes, and the bees then follow to gather the juice.

A Thankful Bee-Keeper.—W. T. Maddox, Alexandria, La., on Aug. 24, 1887, writes:

I have done fairly well in producing honey this year, having taken 9,000 lbs. from 100 colonies, and they had enough to winter on; though I expected to get at least 12,000 or 15,000 lbs. The spring opened beautifully and so early, and every colony swarmed. We had dry weather during half of March and all of April, but I cannot say that we suffered from drouth; though we have had a very peculiar season, the prevailing winds being from the northwest and northeast, evidently affecting the secretion of nectar in clover bloom, of which there was a profusion, and it bloomed long. I feel thankful, as the crop generally is a failure, I believe.

Buckwheat Yielding Fairly.—S McLees, May, ⊶ Mich., on Aug. 25, 1887, writes:

Some of my colonies have filled 35 1-lb. sections of honey. Alsike yielded well, white clover but little, and there was scarcely enough from basswood to give a flavor. We had several weeks of drouth—until the rain on Aug. 23, which has revived all nature, and set the bees at work again. They are now working on buckwheat, which promises to give a fair yield.

☞ The Kentucky State Bee-Keepers' Society meets in Falmouth, Pendleton Co., Ky., on Oct. 18, 1887. This is expected to be a very interesting meeting, and a large attendance is expected.

J. T. CONNLEY, *Sec.*

☞ The Hardin County Bee-Keepers' Association will hold a meeting on the Fair Grounds at Eldora, Iowa, on the 3rd day of the Fair, Wednesday, Sept. 15, 1887, at 1 P.M. All bee-keepers are requested to be present, and all interested are cordially invited.

J. W. BUCHANAN, *Sec.*

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

Issued every Wednesday by

THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO ILL.
At One Dollar a Year.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

As there is Another firm in Chicago by the name of "Newman & Son," we wish our correspondents would write "American Bee Journal" on the envelope when writing to this office. Several letters of ours have already gone to the other firm (a commission house), causing vexatious delay and trouble.

We will Present Webster's Dictionary (pocket edition), and send it by mail, postpaid, for two subscribers with $2. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Money Orders can now be obtained at the Post Offices at reduced rates. Five dollars and under costs now only 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them, and are in no way safe.

Red Labels for one-pound pails of honey, size 3x4½ inches.—We nave now gotten up a lot of these Labels, and can supply them at the following prices: 100 for $1.00; 250 for $1.50; 500 for $2.00; 1,000 for $3.00; all with name and address of apiarist printed on them—by mail, postpaid.

E. Duncan Sniffen, Advertising Agent, 3 Park Row, New York, inserts advertisements in all first-class Newspapers and Magazines with more promptness and at lower prices than can be obtained elsewhere. He gives special attention to writing and setting up advertisements in the most attractive manner, and guarantees entire satisfaction. In all his dealings, he is honorable and prompt. Send for his Catalogue of first-class advertising mediums. Mailed free. 52A40t

A Valuable Book Given Away.—We have made arrangements by which we can supply the AMERICAN BEE JOURNAL and the New York *World*—both weekly—for one year, for $2.10, and **present** the subscriber with **one of these books,** bound in Leatherette Free Calf:

HISTORY OF THE UNITED STATES—from 432 to 1887.—320 pages.—Price, $2 00.

HISTORY OF ENGLAND—from before the Christian era to 1887.—Price, $2.00.

EVERYBODY'S BOOK—a treasury of useful knowledge.—410 pages.—Price, $2.00.

* The extra 10 cents is for postage on the book, which must be selected by the subscriber at the time of sending the subscription, and cannot be afterwards exchanged.

The book selected will be mailed in a cardboard case, at the subscriber's risk; if lost it cannot be replaced. Be sure to write your name, post-office, county and State plainly, and then the risk of loss is *very* small. The subscriptions can commence at any time.

Remember, the amount is **$2.10** for both papers, and the Book and postage.

Sweet Clover, (*Melilotus alba*), furnishes the most reliable crop of honey from July until frost, and at the same time it furnishes the most delicious honey, light in color, and thick in body. It may be sown in waste places, fence corners, or on the roadside. Sow two years running, on the same land, and the honey crop will be without intermission. Money invested in Sweet Clover Seed will prove a good investment. The Seed may be obtained at this office at the following prices: $6.00 per bushel (60 lbs.); $1.75 per peck, or 20 cents per pound.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now so *cheap* that no one can afford to do without it. We will present a **Binder** for the BEE JOURNAL to any one sending us three subscriptions—with $3.00—direct to this office. It **will pay** any one to devote a few hours, to get subscribers.

Enameled Cloth for covering frames, price per yard, 45 inches wide, 20 cents; if a whole piece of 12 yards is taken, $2.25; 10 pieces, $20.00; if ordered by mail, send 15 cents per yard extra for postage.

Preserve your Papers for reference. If you have no **BINDER** we will mail you one for 60 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office, or we will send them all to the agent.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

OUR CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	Club
The American Bee Journal	1 00	..
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 25	1 20
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 75
Canadian Bee Journal	2 00	1 75
Rays of Light	1 50	1 35
The 7 above-named papers	5 25	4 50
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 00
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30

One yearly subscription for the AMERICAN BEE JOURNAL must be ordered with each paper or book, in order to take advantage of the prices named in the last column.

Conventions.—The time for holding Bee-Keepers' Conventions will soon be here, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keepers' Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discusson—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.30.

Don't do it!—Notwithstanding our many cautions, some persons still persists in sending silver in letters. In nine cases out of ten it will break the envelope and be either lost or stolen. Cases come to light nearly every day, showing that silver sent in letters stops somewhere on the way. It is an invitation to the thief—a regular **temptation!** If you wish to *safely* send money, get a Post-Office Money Order, Express Order, or Bank Draft on Chicago or New York. When money is sent in either of the above-named ways, it is at our risk. In any other manner, it is at the risk of the sender.

Back Numbers of the BEE JOURNAL for this year are getting scarce. If any of our new subscribers want them, they should order them soon, or we may not be able to supply them. Last fall we had to refuse many applications for them, as they were all gone in September. Say so at once, if you want them.

Our New Book List on the second page is the place from which to select the book you want. We have a large stock of every book there named, and can fill all orders on the day they are received.

Honey and Beeswax Market.

The following are our very latest quotations for honey and beeswax:

CHICAGO.

HONEY.—We quote: In 1-lb. sections, 15@18c The color makes the difference in price.
BEESWAX.—22@24c. R. A. BURNETT.
Aug. 12. 161 South Water St.

DETROIT.

HONEY.—New comb is very scarce, and quoted at 17@18c. per lb.
BEESWAX.—23c.
Aug. 17. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lbs. sold to-day at 17c.; 2-lbs., 14@15c.; dark, 10@12c. White extracted, 8c.
BEESWAX.—25c.
Aug. 25. A. C. KENDEL, 115 Ontario St.

BOSTON.

HONEY.—New crop, 1-lb. sections, 20@22c.; 2-lb. sections, 18@20c. Short crop indicated.
BEESWAX.—25 cts. per lb.
Aug. 25. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white liquid, 5¼@5¾c.; amber colored and candied, 4¼@5c.—White to extra white comb, 12@15c.; amber, 8@11c. Receipts light.
BEESWAX.—17@21c.
Aug. 27. SCHACHT & LEMCKE, 122-124 Davis St.

SAN FRANCISCO.

HONEY.—We quote: White comb, 12@13c.; extra white comb, 14 to 15c.; dark, 7 to 10c. White extracted, 5¼@5¾c.; light amber, 4¼@5c.; amber and candied, 4¼@4¾c. Receipts light; poor crop.
BEESWAX.—21@23c.
July 25. O. B. SMITH & CO., 423 Front St.

MILWAUKEE.

HONEY.—Choice 1-lbs., 17@18c.; 2-bs., 15@16c. White extracted in kegs and barrels, 7½@8c., and in tin cans, 8c.; dark in kegs and barrels, 6@6½c., in tin cans, 6½@7c. Demand good; supply limited.
BEESWAX.—25c.
Aug 26. A. V. BISHOP, 142 W. Water St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 16@18c.; lhe same in 2-lbs., 13@14c.; fair to good 1-lbs., 13@15c., and 2-lbs., 10@12c. Extracted white clover, in kegs and barrels, 7@8c.
BEESWAX.—21@22c.
McCAUL & HILDRETH BROS.,
Aug. 24. 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote new crop: Choice white 2-lb. sections, 15c.; dark 2-lbs., 12@13c. choice white 1-lbs., 18c.; dark 1-lbs., 13@14c. Calif. white 2-lbs., 13 to 15c. Extracted, new choice white, 8@10c.; dark, 5@6c; Calif. white, 8c.; amber, 6@7c.
BEESWAX.—20 to 22c.
Aug. 25. HAMBLIN & BEARSS, 514 Walnut St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., 16@18c.; dark, 15@16c.; white 2-lbs., 15@17c.; dark, 14@15c.; California—white 1-lbs., 15@17c., 2-lbs., 15@16c.; dark 1-lbs. 14@15c., 2-lbs. 14c. Calif. white extracted, 7@7½c.; dark, 6@6½c. No white clover in market.
BEESWAX.—No. 1, 20@22c.; No. 2, 16@18c.
Aug. 24. CLEMONS, CLOON & CO., cor 4th & Walnut

ST. LOUIS.

HONEY.—Choice comb, 10@12c.; latter price for choice white clover in good condition. Strained, in barrels, 4@4½c. Extra fancy, of bright color and in No. 1 packages, ¼-cent advance on above. Extracted, in bbls., 4½@5½c.; in cans, 5½ to 6c.—Market very firm at above prices.
BEESWAX.—21c. for prime.
Aug. 2. D. G. TUTT & CO., Commercial St.

CINCINNATI.

HONEY.—We quote for extracted, 3@7c. per lb. Comb honey has been sold out perhaps better than ever before at this time, only remnants of dark honey being left. Choice white would readily bring 15c. in a jobbing way.
BEESWAX.—Fair demand,—20@22c. per lb. for good to choice yellow.
Aug. 19. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, paper boxes, 17@19c.; fancy 1-lbs., glassed or unglassed, 17@18c.; fancy 2-pounds., glassed, 14@16c. Lower grades 10@3c. per lb. less. Buckwheat 1-lbs., paper boxes, 11@12c.; same glassed or unglassed, 10@11c.; 2-lbs. glassed, 9@10c. Extracted, white, 7@8c.; dark, 5@6c. Demand large.
Aug. 30. F. G. STROHMEYER & CO., 122 Water St.

Union Convention at Chicago.—The North American Bee-Keepers' Society and the Northwestern Bee-Keepers' Society will meet in joint convention at the Commercial Hotel, cor. Lake and Dearborn Streets, in Chicago, Ills., on Wednesday, Thursday and Friday, Nov. 16, 17 and 18, 1887. Arrangements have been made with the Hotel, for back room, one bed, two persons, $1.75 per day, each; front room, $2.00 per day each person. This date occurs during the *second week* of the Fat Stock Show, when excursion rates will be very low.

☞ The Union Bee-Keepers' Association of Western Iowa will hold their annual picnic at the apiary of Thomas Chantry, near Casey, Iowa, on Sept. 15, 1887. All invited.
H. D. LENOCKER, *Sec.*, Dexter, Iowa.

We have a large quantity of CHOICE WHITE **EXTRACTED HONEY,** in kegs holding from 200 lbs. to 225 lbs. each, which we will deliver on board the cars at **10 cents** per lb. Orders solicited.

Queens.—We can mail a Tested Italian Queen (bred for the best results as well as for beauty) for $2.00; Untested Queens, $1 each, or $9.00 per dozen. Orders solicited.

We pay 20 cents per pound, delivered here, for good Yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

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Finest Apiary in Southern California.

WE OFFER for the next Ninety Days, an **APIARY** of **600 COLONIES** of Cyprian, Syrian and Italian Bees, in about equal proportion. This Apiary is located in Ventura County, on the "Simi Ranch" about 45 miles from San Buenaventura, and 35 miles from Los Angeles. Mr. S. U. W., the owner of this Apiary, extracted and sold, in 1884, beween May and Sept., 86 tons of honey, and left 12 tons in the hives, which was extracted in Feb., 1885, making **98 tons** from 552 colonies, and increased the Apiary to 1,200 colonies. This Apiary is in one of the very best localities for honey in the State, out of reach of fruit and other bees.

The **Simi Ranch** of 86,000 acres, is now being **subdivided,** and will be offered to actual settlers in **suitable tracts.**

The Apiary **pays a rental** of **$80 per annum** for the range. It is located so that Stock-Raising and Farming can be carried on at the same time. **The hive** is a movable-frame hive, and has an upper and lower chamber; the lower chamber has 12 brood-frames, and the upper has 10 store-combs, and are all full of honey; were not extracted this year. There are **200 extra hives** and frames made up to increase the Apiary to 1,000 colonies. There is a Honey-House, a Dwelling-House, 10-ton Tank, a reversible 8-frame Extractor, and **everything needed in the business.**

☞ We have OTHER APIARIES in the County, and can locate parties wishing to come here, either on Bee-ranches, Stock-ranches, Farms or town lots.

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ARE you going to exhibit, and develop the home market? You will find our brilliant CHROMO CARD a power to extend reputation. This beautiful Card is printed in 8 colors, full of instruction and amusement.

Give the same enterprise to SELLING HONEY, that your merchant does to selling calico, and the Home Market will take it all.

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We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to

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Early Nuclei & Italian Queens.

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☞ Special rates on large orders. Circular giving description of our BEES, free.

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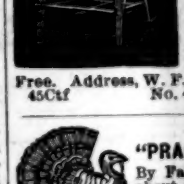
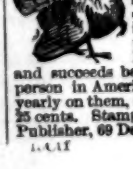


Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free. Address, W. F. & JOHN BARNES,
45Ctf No. 484 Ruby St., Rockford, Ill.



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It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition. Bound in cloth, $1.00, postpaid.

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More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs.

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Patent Flat-Bottom Comb Foundation

High Side Walls, 4 to 14 square feet to the pound. Wholesale and Retail. Circulars and Samples free

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SIX Warranted Italian Queens..... $5 00
Fourteen Warranted Italian Queens..... 10 00
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PRICE 5 cents. You need this pamphlet, and my free Bee and Supply Circular. 31Atf
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"Boss" One-Piece Sections,

MANUFACTURED BY

J. Fornerook & Co., Watertown, Wis.

Patented June 28, 1881.

WE will furnish you SECTIONS as cheap as the cheapest. Write for price-list.
Watertown, Wis., May 1st, 1887.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

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QUEENS FOR BUSINESS

UNTIL further notice, I will send by return mail, safe arrival guaranteed, Good **QUEENS** from my best strains noted for gentleness and honey-gathering qualities, viz:

1 Queen	$0.80
6 Queens	4.50
12 Queens	8.00

Address, WM. W. CARY,
29Atf Colerain, Franklin Co., Mass.

Extra Thin FOUNDATION

In 25-Pound Boxes.

WE CAN now furnish **VAN DEUSENS'** Extra-Thin Flat-Bottom Foundation put up in 25-lb. Boxes, in sheets 16½x28 inches, at **$12.50 per box. 12 ft.** to the lb. ☞ The above is a **special offer,** and is a **Bargain** to all who can use that quantity.

All orders for any other quantity than exactly 25 lbs. (or its multiple) will be filled at the regular price—**60 cents** per lb.

THOS. G. NEWMAN & SON.,
923 & 925 W. Madison St., CHICAGO, ILL.

SELF-INKING RUBBER-STAMP.

2,000

Impressions for 10 cts. Will last a life-time. It prints Envelopes, Letter-Heads, Postal Cards, Sections, Clothing—everything. Your name, occupation and address, with the machine and a bottle of ink, by mail, for $1.00. Extra ½ bottles of ink for 12 cts. Show this adv't to your friends. Send me an order for 10 Stamps, & get your own free. Read what Editor Newman says of this Stamp on page 547. Agents wanted. Send for Catalogue and terms. Address,

GEO. T. HAMMOND, THE "MIDGET."
26Etf BROCKPORT, Monroe Co., N. Y.

☞ **If you wish to obtain the Highest Price for Honey this Season, write to Headquarters, 122 Water-street, New York,**

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Wholesale Honey Merchants.

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ONE bright Tested Italian Queen, with 3 frames Bees and brood, $3.00. Tested Queen, $1.25.
5A1y O. N. BALDWIN, Clarksville, Mo.

NEW ONE-POUND HONEY PAIL.

THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street. CHICAGO, ILL.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

HAS published a neat little book of 45 pages, entitled, "The Production of Comb Honey." Its distinctive feature is the thorough manner in which it treats of the use and non-use of foundation. Many other points are, however, touched upon. For instance, it tells how to make the most out of unfinished sections, and how to winter bees with the least expense, and bring them through to the honey harvest in the best possible shape.

☞ Price of the Book, **25 cts.** Stamps taken—either U. S. or Canadian.

FINE ITALIAN QUEENS, reared from the best, selected, tested imported mother, 75 cents each, by **return mail.**
35Atf

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column.

NEWSPAPER AND JOB PRINTING OFFICE

For Sale at a Bargain,

IT is located in a Southern Winter Resort. An accident to the Proprietor makes it necessary to obtain rest. For further particulars, address the proprietor,

H. A. COOK, Eureka Springs, Ark.

Send 75 Cents for my New Book—"A Year among the Bees;" 114 pages, cloth bound. Address,
DR. C. C. MILLER,
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THE BRITISH BEE JOURNAL

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IS published every week, at **10s. 10d.** per annum. It contains the best practical information for the apiarist. It is edited by Thomas Wm. Cowan, F.G.S., F.R.M.S., etc., and published by John Huckle, King's Langley, Herts, England.

The NEW Heddon Hive.

We have made arrangements with the inventor by which we shall make and sell the Heddon Reversible Hive, both at wholesale and retail; nailed and also in the flat.

The brood-chamber is in two sections; also the surplus arrangement, which may be interchanged or inverted at will. The cover, bottom-board, and top and bottom of each sectional case has one-half of a regular bee-space, so that the surplus cases with the sections, may be placed between the two brood-chambers, or the latter may be transposed or inverted—in fact, all parts of this hive are perfectly interchangeable. The brood-frames will ALL be bored for wires.

A SAMPLE HIVE includes the bottom-board and stand; a slatted honey-board, and cover; two 6-inch brood-chambers, each containing 8 frames; two surplus arrangements, each containing 28 one-pound sections, one with wide frames and separators, and the other without separators. This latter chamber can be interchanged with the other stories, but cannot be reversed. It is NAILED AND PAINTED, and ready for immediate use. Price, $4.00, complete.

THOMAS G. NEWMAN & SON,
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Dadant's Foundation Factory, wholesale and retail. See advertisement in another column.

TODD'S HONEY-CANDIES sell well at Fairs—average wholesale price 16c ℔ lb.; retail, 30 cts. Mail samples, 25 cts. HONEY and BEESWAX wanted on Commission, by—ARTHUR TODD, 2122 North Front St., Philadelphia, Pa.
31A13t

A Good Market for COMB HONEY.

THE **Highest Market Price will be paid for COMB HONEY. Before disposing of your Crop write to**

H. L. NICOL & CO.,
KANSAS CITY, MO.,
Proprietors of "Red Cross" Brand Honey.
33A4t